Complete Summary

GUIDELINE TITLE

Shoulder.

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Shoulder. Corpus Christi (TX): Work Loss Data Institute; 2003. 15 p. [87 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Work-related shoulder disorders

GUIDELINE CATEGORY

Diagnosis
Evaluation
Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Orthopedic Surgery
Surgery

INTENDED USERS

Advanced Practice Nurses
Health Care Providers
Health Plans

Nurses
Physicians

GUIDELINE OBJECTIVE(S)

To offer evidence-based step-by-step decision protocols for the assessment and treatment of workers' compensation conditions

TARGET POPULATION

Workers with occupational shoulder disorders

INTERVENTIONS AND PRACTICES CONSIDERED

1. Anterior scalene block
2. Arthrography
3. Costoclavicular maneuver
4. Elevated arm stress test
5. Exercises
6. Magnetic resonance imaging (MRI)
7. Nerve blocks
8. Physical therapy
9. Steroid injections
10. Supraclavicular pressure
11. Surgery for acromioclavicular (AC) joint separation
12. Surgery for impingement syndrome
13. Surgery for rotator cuff repair
14. Surgery for ruptured biceps tendon
15. Surgery for shoulder dislocation
16. Surgery for thoracic outlet syndrome

The following interventions were considered, but are either not currently recommended or not specifically included as major recommendations:

1. Acupuncture
2. Adson's test
3. Biofeedback
4. Bipolar interferential electrotherapy
5. Biopsychosocial rehabilitation
6. Cardiovascular functional stability testing
7. Cutaneous laser treatment
8. Diathermy
9. Electrical stimulation
10. Extracorporeal shock wave therapy
11. Manipulation
12. Manipulation under anesthesia
13. Massage
14. Mechanical traction
15. Therapeutic exercise
16. Thermotherapy
17. Transdermal nitroglycerin
18. Transcutaneous electrical neurostimulation (TENS)

19. Ultrasound

MAJOR OUTCOMES CONSIDERED

- Sensitivity, specificity, and accuracy of diagnostic tests
- Effectiveness of treatment in relieving pain and restoring normal function

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Not stated

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ranking by quality within type of evidence:

a. High Quality
b. Medium Quality
c. Low Quality

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

The guideline developers reviewed published cost analyses.

METHOD OF GUIDELINE VALIDATION

Not stated

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not applicable

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Initial Diagnosis

- First visit: with Primary Care Physician MD/DO (100%)
- Initial evaluation should include:
  - Determine the type of trauma (e.g., direct trauma, fall, repetitive motion, or twisting incident).
  - Test the range-of-motion of the joint (normal, mild restriction, severe restriction, or complete restriction).
  - An initial evaluation of the shoulder requires accurate diagnosis of shoulder injuries by careful inspection and palpation of the shoulder area. Although the shoulder is generally swollen, the injury is usually defined by direct tenderness over the injured area.
- Determine "degenerative changes" versus "acute trauma":
  - Degenerative changes (Go to Initial Conservative Treatment) Lesions of the rotator cuff are a continuum, from mild inflammation and degeneration to full avulsions. Studies of normal subjects document the universal presence of degenerative changes and conditions, including full avulsions without symptoms. Conservative treatment has results similar to surgical treatment but without surgical risks. Surgical outcomes are much better in younger patients with a rotator cuff tear, than in older patients, who may be suffering from degenerative changes in the rotator cuff. Impingement syndrome, shoulder tendonitis, shoulder sprain, and subacromial bursitis are all closely related entities with the same etiology. They involve friction, abrasion, and inflammation of the rotator cuff and the long head of the biceps tendon with the subacromial arch (anterior lip of the acromion, coracoacromial ligament, and acromioclavicular joint). These conditions involve consequences of aging or repetitive use, or a combination thereof, such as:
    - Impingement syndrome (age >40 years, weakness, cuff tenderness, painful range of motion [ROM], impingement sign, radiographic findings, night pain, history of catching, or pain with shoulder motion)

- Rotator cuff tendonitis (similar)
- Rotator cuff tear (only Types I and II, partial tear, age >40 yrs)
- Adhesive capsulitis, frozen shoulder (progressive pain and stiffness, diabetes or trauma, decreased passive range of motion, normal x-rays, night pain)
- Tendonopathy
- Bicipital tendon disorders
- Bursitis

- Acute Trauma (Go directly to Aggressive Treatment)
  - Acute rotator cuff tear (type III, age <40 yrs)
  - Acromioclavicular (AC) joint strain or separation

    Types I--III versus Types IV--VI (rare, surgery indicated)

- Rule out diagnoses (See other treatment parameters for each of these):
  - Referred neck pain (see the original guideline document for ICD-9 codes for this and other diagnoses)
  - Thoracic outlet syndrome, brachial plexus disorders
  - Fractures (treat clavicular fractures mostly nonoperatively)
  - Laceration
  - Glenohumeral shoulder joint dislocation
  - Arthritis

Mild/Moderate -- Initial Conservative Treatment (90% of cases)

- Also first visit (day 1):
  - Prescribe alteration of activity (home and work), no overhead work, stretching (gentle range-of-motion exercises), appropriate analgesia (i.e., acetaminophen) and/or anti-inflammatory (i.e., ibuprofen) [Benchmark cost: $14], back to work -- modified duty if condition caused by job, possible ergonomic evaluation of job

Official Disability Guidelines (ODG) Return-To-Work Pathways

Medical treatment (stage 1 or 2, impingement, no tear), modified work: 0 days

Medical treatment (impingement, no tear), manual work: 7 days

- Second visit (day 14 – about 2 weeks after first visit)
  - Document progress.
  - If not significantly improved, then prescribe physical therapy (gentle range-of-motion exercises plus exercises that strengthen the rotators and stabilize the scapula); should be started for home exercise training [Benchmark cost: $250]: Refer to Physical Therapist (50%) or Occupational Therapist (50%) for 3 visits per week for 2 weeks.
- Third visit (day 28 – about 1 month after first visit)
  - Document progress.
  - Further relaxation and pain control can be achieved by injecting an anesthetic under the acromion (laterally or anteriorly) into the shoulder joint.

- Corticosteroid injection trial [Benchmark cost: $276]. Should be performed by musculoskelatally-trained physician. Sprains of the rotator cuff cause swelling within a closed space and add an element of chronic impingement which may be slow to resolve. By decreasing swelling, local infiltration of the rotator cuff with corticosteroids may quicken the resolution of this problem. Repeat corticosteroid injection may be necessary, but should not be done any sooner than every two weeks, up to a maximum of three injections. Injection should be avoided in patients under 30 years of age.
- If prescribe therapy, then continue therapist, change from passive to active modality, 2 visits per week, teach home exercises.

ODG Return-To-Work Pathways

Medical treatment (impingement, no tear), manual overhead work: 28 days

Medical treatment, regular work if cause of disability: 42 days

Medical treatment, heavy manual work: 42 days

- Fourth visit (day 42 – about 6 weeks after first visit)
  - Refer for imaging.

Imaging (30% of cases)
[Benchmark cost: $370-$1,200]

- Magnetic resonance images (MRIs) are quite accurate in differentiating chronic impingement from tears of the rotator cuff and should be employed when a surgical approach is being considered.
- Arthrograms are accurate in diagnosing rotator cuff tears.
- X-rays: special views of acromioclavicular joint, with weights in hand for acromioclavicular separation
- If indicated by imaging, and no improvement from initial conservative therapy, refer for aggressive treatment at three months.

Aggressive Treatment (10% of cases)
[Benchmark cost: $2,621]

- Include imaging as above.
- Dislocation: After reduction, the first and second dislocations of the shoulder are treated nonsurgically except in unusual circumstances. An initial dislocation should generally be treated with three or more weeks of immobilization in a sling and swathe. This is followed by a progressive exercise program to strengthen the muscles of the shoulder girdle and, thus, reduce the probability of recurrent dislocations. A second dislocation may be treated in a sling until asymptomatic. After a third dislocation, further dislocations may be presumed to be imminent, and orthopedic referral for consideration of a surgical repair is appropriate.
- Arthroscopy, Shoulder, Surgical: Rotator cuff repair, with decompression of subacromial space with partial acromioplasty, with or without coracoacromial release. Performed by Orthopedic Surgeon (90%) or General Surgeon (10%)

on an outpatient or 23-hour basis. Should be endoscopic. Decompression/acriomoplasty alone should be performed after at least six weeks of conservative treatment.

- Post-surgical treatment:
  - Physical/Occupational Therapy: A short course may be needed; if so then post-surgical treatment (endoscopic): 14 visits over 8 weeks; post-surgical treatment (open): 20 visits over 10 weeks

ODG Return-To-Work Pathways

Arthroscopic surgical repair/acromioplasty (stage 3), clerical/modified work: 28--56 days

Arthroscopic surgical repair/acromioplasty, manual work, non-dominant arm: 56--90 days

Arthroscopic surgical repair/acromioplasty, manual work, dominant arm: 70--90 days

Open surgery (stage 3), clerical/modified work: 42--56 days

Open surgery, manual work, non-dominant arm: 70--90 days

Open surgery, manual work, dominant arm: 90--106 days

Open surgery, heavy manual work if cause of disability: indefinite

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

During the comprehensive medical literature review, preference was given to high quality systematic reviews, meta-analyses, and clinical trials over the past ten years, plus existing nationally recognized treatment guidelines from the leading specialty societies.

The type of evidence associated with each recommended or considered intervention or procedure is ranked in the guideline's annotated reference summaries.

Ranking by Type of Evidence:

1. Systematic Review/Meta-Analysis
2. Controlled Trial–Randomized (RCT) or Controlled
3. Cohort Study--Prospective or Retrospective
4. Case Control Series

5. Unstructured Review
6. Nationally Recognized Treatment Guideline (from www.guideline.gov)
7. State Treatment Guideline
8. Foreign Treatment Guideline
9. Textbook
10. Conference Proceedings/Presentation Slides

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

These guidelines unite evidence-based protocols for medical treatment with normative expectations for disability duration. They also bridge the interests of the many professional groups involved in diagnosing and treating work-related shoulder conditions.

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Work Loss Data Institute. Shoulder. Corpus Christi (TX): Work Loss Data Institute; 2003. 15 p. [87 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2003

GUIDELINE DEVELOPER(S)

Work Loss Data Institute - Public For Profit Organization

SOURCE(S) OF FUNDING

Not stated

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available to subscribers from the Work Loss Data Institute Web site.

Print copies: Available from the Work Loss Data Institute, 169 Saxony Road, Suite 210, Encinitas, CA 92024; Phone: 800-488-5548, 760-753-9992, Fax: 760-753-9995; www.worklossdata.com.

AVAILABILITY OF COMPANION DOCUMENTS

Background information on the development of the Official Disability Guidelines of the Work Loss Data Institute is available from the Work Loss Data Institute Web site.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on February 2, 2004. The information was verified by the guideline developer on February 13, 2004.

COPYRIGHT STATEMENT

Date Modified: 11/15/2004